Inside Wallops

National Aeronautics and Space Administration
Goddard Space Flight Center
Wallops Flight Facility, Wallops Island, Va.

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NASA Wallops Scientists Head to Africa to Study Birth of Hurricanes

NASA, the National Oceanic and Atmospheric Administration, (NOAA), universities and international agencies are working together to study how winds and dust conditions from Africa influence the birth of hurricanes in the Atlantic Ocean.

Scientists from NASA Goddard Space Flight Center's, Wallops Flight Facility are taking part in the month long effort off the West African coast. The research, part of the NASA African Monsoon Multidisciplinary Analysis (NAMMA), is taking place in the Cape Verde Islands from August 15 to mid-September. The Cape Verde Islands are located 350 miles off the coast of Senegal in West Africa.

The campaign is in collaboration with a much larger international mission, the African Monsoon Multidisciplinary Activities, aimed at improving the knowledge and understanding of the West African Monsoon. NASA's contribution to the larger project focuses on the evolution of the birth of tropical cyclones.

The major research topics of this mission examine the formation and evolution of tropical hurricanes in the eastern and central Atlantic Ocean and their impact on the east coast of the United States, the composition and structure of the Saharan Air Layer, and whether aerosols affect cloud precipitation and influence cyclone development. The Saharan Air Layer is a mass of very dry, often dusty air that forms over the Sahara Desert during the late spring, summer, and early fall and usually moves out over the tropical Atlantic Ocean.

Wallops scientists will be using two weather radars to track easterly atmospheric waves moving across Africa, as well as studying the structure of the

NASA photo
Wallops' NPOL radar antenna.

atmosphere by the use of radiosondes and have placed 30 rain gages throughout remote areas on the coast of West Africa.

The NASA POLarimetric radar (NPOL) and Tropical Ocean-Global Atmosphere radar (TOGA) will be tracking heavy convective thunderstorms and pressure waves as they move across Africa. NASA's DC-8 aircraft will be flown in coordination with these radars to measure various properties of the atmosphere.

Atmospheric readings also will be observed from radiosondes, a device flown on weather balloons. While climbing to altitude, the radiosondes will measure pressure, temperature, wind, and humidity. These radiosondes will be flown every four hours for 30 days. Frequent vertical measurements will contribute to the overall understanding of the formation of tropical cyclones.

Also, a SNOW WHITE chilled mirror will be flown on a weather balloon once every evening. This chilled mirror measures relative humidity in the upper troposphere and enhances the overall series of relative humidity data.

The campaign will use extensive data from NASA's fleet of Earth observing satellites, including the Tropical Rainfall Measurement Mission, QuikScat, Aqua, and the recently-launched CloudSat and Cloud-Aerosol Lidar and Infrared Pathfinder Satellite Observations, or Calipso.

There are approximately 60-70 African Easterly Waves annually. Only 10 percent of these waves evolve into named Atlantic tropical systems. Most Atlantic-named storms, including last year's catastrophic Hurricane Katrina, can be traced to an African Easterly Wave.

A Message from Center Director Ed Weiler

Do you have use or lose leave that you may not be able to take before the end of the year? If so, you're not alone. In 2004, Goddard employees lost 10,275 hours of leave.

In 2005, 11,658.95 hours of leave went unused, and in 2006 as much as 11,500 hours of leave may be lost. While we encourage everyone to schedule and take their earned leave, sometimes that is just not possible.

Rather than losing it, I would like to encourage you to consider donating your unused Use or Lose leave.

Your unused leave could help a colleague who is forced to miss work because of a serious illness, or provide time to recover from an accident. It could also benefit a new mother or father, or an employee who is dealing with the tragedy of a terminally ill family member.

If you think you may end the year with unused leave, consider donating it now to the Leave Donation Program.

To get additional information or a copy of the OF 630-B form (Request to Donate Annual Leave to Leave Recipient Under the Voluntary Leave Transfer Program) contact Esther Johnson, GSFC Leave Program Manager, at Esther.C.Johnson@nasa.gov or at x66-0023.

Electromagnetic Radiation and Implanted Heart Devices

by Dr. Barry Spinak, WFF Medical Director

Employees and visitors at Wallops with a pacemaker or implantable cardioverter defibrillator (ICD) should be observant of all warning signs in the vicinity of radar and telemetry antennae and high-voltage installations. Maintain safe distances from such equipment as directed by the signage.

Individuals with a cardiac pacemaker or ICD may experience adverse effects in strong electromagnetic (EM) fields due to the interaction between the EM radiation and the devices. Factors to consider are frequency, modulation and power of the emitter, duration of exposure and proximity to the emitter of the individual with the implanted device.

General precautions for anyone with a pacemaker or ICD include:

• Always carry an ID card and wear a medical identification bracelet that states you have a pacemaker or an ICD

• Keep cell phones at least 6 inches from the implant;

• Use caution when going through airport security detectors. Check with your physician about the safety of going through such detectors with your type of pacemaker. In particular, you may need to avoid being screened by hand-held detector devices, as these devices may affect your pacemaker;

• When exiting retail stores through security scanners don't linger. Be aware that EAS systems might be hidden at entrances and exits to many commercial establishments, and avoid these security devices as much as possible;

• Turn off large motors such as in cars or boats when working on them;

• When involved in a physical, recreational, or sporting activity, avoid receiving a blow to the skin over the pacemaker or ICD, which can affect its functioning. If you do receive a blow to that area, see your physician;

If you have any questions relevant to the use of certain equipment near your pacemaker, consult your cardiologist or call the company that made your device to obtain the most current information pertinent to exposure of your device to possible EM radiation from the equipment.

Wallops Shorts.....

In the News

Virginia Pilot, "Satellite Launch Planned at Wallops on Eastern Shore"

Space News, "TacSat-2 Satellite Will Launch from Wallops"

Eastern Shore Post, "Wallops Chosen as Launch Site"

Wallops Toastmasters

You are invited to Debedeavon Toastmasters on Wednesday, August 16, from 11:30 a.m.-12:30 p.m. at the Navy/MWR Cropper Center, 7463 Kearsarge Circle, Wallops Island.

Toastmasters provides training and practice in public speaking; including prepared speeches, impromptu speaking, active listening and speech evaluation.

SATERN Open House

August 15
11 a.m. to noon – Employee Session
Noon to 1 p.m. – Supervisor Session
Building E-2 Training Room

Information to be provided on the System for Administration, Training and Educational Resources for NASA (SATERN) includes:

- NASA Form 1735 {New training form for off site training}
- ID & Password Information to log into the system
- Tutorial available on the web page
- SATERN Brochure
- How to take your IT Security Training

Women's Equality Day

The Federal Women's Program, Women of Wallops invite you to a catered luncheon in celebration of Women's Equality Day on August 30, from 11:30 a.m.-1 p.m. in the E-2 Williamsburg Room.

Adena Loston

Join us as Dr. Adena Williams Loston, Director of Education at NASA Wallops, presents "Women's Advancement and Continuing Education."

Loston served as Chief Education Officer at NASA Headquarters in Washington, D.C. She assumed the role of Associate Administrator for Education on October 28, 2002, and began her career with NASA in September 2002 as the Administrator's Senior Education Advisor.

Prior to her appointment, Loston served as president of San Jacinto College South in Houston for five years. She served as the second president of San Jacinto College and as the first African-American president in the district.

Tickets are $7 per person. Call Kathryn Redden at 757-824-2187 for more information.

Modeling the Space Radiation Environment

August 16, 10 a.m. – noon
Building F-6, Room 213
By VITS to Wallops

This mini-course will present recent developments in modeling the trapped particle, galactic cosmic ray and solar particle event radiation environments geared toward engineering design applications.

For further information contact Tina Wessells at x2110.

Inside Wallops is an official publication of Goddard Space Flight Center and is published by the Wallops Office of Public Affairs, Extension 1584, in the interest of Wallops employees. Recent and past issues of *Inside Wallops* also may be found on the NASA Wallops Flight Facility homepage: www.wff.nasa.gov

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